

Application No.: 10/849,574
Amdt dated: June 17, 2009
Reply to Office action of March 17, 2009

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A seal for laparoscopic port comprising:
a base adapted to engage a cannula, the base including an axial aperture for a surgical instrument and a plurality of guides;
a multiplicity of jaws mounted on the base, the jaws being moveable radially along the plurality of guides with respect to the aperture between an open position wherein the shaft of the surgical instrument may pass freely and the closed position wherein the jaws engage said shaft and provide a restraining force restraining radial movement of the shaft, and the multiplicity of jaws each comprising a follower member extending therefrom;
an actuator, the actuator having a plurality of guideways formed therein, the follower member of each of the multiplicity of jaws being received in a corresponding one of the plurality of guideways, the actuator rotatable to urge the jaws to move between said open position and said closed position; and
a diaphragm adapted to contact the shaft of a surgical instrument extending through the aperture;

wherein the diaphragm includes a lip, each jaw including a radially outwardly facing portion adapted to engage the lip so that the aperture of the diaphragm is forced to open as the jaws move to an open position.

2. (Original) A seal as claimed in claim 1, wherein the jaws may be adjusted to engage a shaft having any diameter between preselected upper and lower limits.

3. (Canceled)

4. (Currently amended) A seal as claimed in claim ~~[[3]]~~ 1 wherein the guides on the base comprise channels between raised formations, tracks or runners.

5. (Currently amended) A seal as claimed in claim ~~[[4]]~~ 1, wherein ~~each jaw comprises a~~ the follower member of each jaw comprises a lug adapted to be received in a respective the corresponding guideway in an the actuator arranged so that rotation of the actuator causes radial movement of the jaw.

6. (Currently amended) A seal as claimed in claim ~~[[5]]~~ 1, wherein each guideway in the actuator comprises an arcuate channel formed in the actuator, ~~a projection or other follower being received in the channel.~~

7. (Original) A seal as claimed in claim 6, wherein the channels have the configuration of parabolic curves.
8. (Canceled).
9. (Previously presented) A seal as claimed in claim 1, wherein the radially outwardly facing portion of each jaw comprises a hook.
10. (Original) A seal as claimed in claim 1, wherein the aperture of the jaws is continuously adjustable between maximum and minimum positions.
11. (Original) An actuator as claimed in claim 1, wherein the jaws may be fully opened or closed by a rotation through an angle of 30 to 180°.
12. (Original) A seal as claimed in claim 1, including a multiplicity of shield members disposed on the proximal side of the diaphragm to prevent accidental damage to the diaphragm in use.
13. (Original) A seal as claimed in claim 12, wherein the shield members are moveable radially between open and closed positions synchronously with the jaws.

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14. (Original) A seal as claimed in claim 13, wherein each shield member is attached to a respective jaw.

15. (Original) A seal as claimed in claim 14, wherein the shield members are interleaved to form a continuous barrier covering the diaphragm.

16. (Original) A seal as claimed in claim 1, wherein each jaw member has two laterally extending shield members.